

ABSTRACT OF THE DISCLOSURE

A robot system and a machining method capable of accurately and simply cutting an end of a pipe into a saddle shape and forming a hole on an outer surface thereof, and further machining a workpiece of a three-dimensional shape which does not have platelike shape. A tool unit is attached to a final axis of a movable arm of a robot. The tool unit is provided with a first additional variable axis expanding and retracting vertically and a second additional variable axis expanding and retracting in the horizontal direction. By rotating the final axis, a cutting tool (machining nozzle of laser) at a distal end of the tool unit is turned about the final axis to cut a workpiece W of a pipe shape. By driving the first and the second additional variable axes in synchronism with rotation of the final axis, the cutting into a saddle shape and the forming of a hole are carried out. The movable arm of the robot is only for rotating the final axis and therefore machining accuracy is promoted.